AMENDMENTS TO THE SPECIFICATION

Please replace Table 1 shown on pages 6 and 7 with the following table, in which the inserted text is underlined, and the deleted text is stricken through.

Table 1

Entropy Type	Entropy Measures
Shannon	$\cancel{E(j)=\frac{1}{MNin(2)}\sum_x\sum_y S(\mu_I(i(x,y)))}$ $\underline{E(j)=\frac{1}{MN\ln(2)}\sum_x\sum_y S(\mu_I(i(x,y)))}$ $\cancel{S(\mu_I(i(x,y)))=-\mu_I(i(x,y))\bullet\ln(\mu_I(i(x,y)))-[1-\mu_I(i(x,y))]\bullet[1-\ln(\mu_I(i(x,y)))]}$ $\underline{S(\mu_I(i(x,y)))=-\mu_I(i(x,y))\bullet\ln(\mu_I(i(x,y)))-[1-\mu_I(i(x,y))]\bullet[\ln(1-\mu_I(i(x,y)))]}$
Yager	$E(J)=1-\frac{1}{(MN)^{1/\alpha}}\left\{\sum_x\sum_y S(\mu_I(i(x,y)))^\alpha\right\}^{1/\alpha}$, $S(\mu_I(i(x,y)))=\mu_I(i(x,y))-\overline{\mu_I}(i(x,y))$, where α is a fuzzifier factor
Pal&Pal	$E(J)=\frac{1}{MN\ln(2)}\sum_x\sum_y S(\mu_I(i(x,y)))$, $S(\mu_I(i(x,y)))=\mu_I(i(x,y))\bullet\exp[\mu_I(i(x,y))]$ $+\{[1+\mu_I(i(x,y))]\bullet\exp[1+\mu_I(i(x,y))]\}$
Bhandari	$E(J)=\frac{1}{MN\ln(2)(1-\alpha)}\sum_x\sum_y S(\mu_I(i(x,y)))$, $S(\mu_I(i(x,y)))=\log[\mu_I(i(x,y))^\alpha+(1-\mu_I(i(x,y))^\alpha]$
Standard Fuzzy Complement	$E(J)=\frac{1}{MN}\sum_x\sum_y S(\mu_I(i(x,y)))$, $S(\mu_I(i(x,y)))=1-[2\mu_I(i(x,y))-1]$

Kaufmann	$E(J)=\frac{2}{MN}\sum_x\sum_y S(\mu_I(i(x,y))),$ $S(\mu_I(i(x,y)))=\min\{\mu_I(i(x,y)),1-\mu_I(i(x,y))\}$
Quadratic Kaufmann	$E(J)=\frac{2}{\sqrt{MN}}\left\{\sum_x\sum_y S(\mu_I(i(x,y)))\right\}^{1/2},$ $S(\mu_I(i(x,y)))=\min\{\mu_I(i(x,y)),1-\mu_I(i(x,y))\}^2$

Please replace the paragraph beginning at page 9, line 1 with the following paragraph, in which the inserted text is underlined, and the deleted text is stricken through.

Furthermore, g_{cal} is set as equal to ~~p~~<u>P</u>$_i$. After initializing initial values, at step 602, entropy values $E(g_{min})$, $E(g_{max})$ and $E(g_{cal})$ of g_{min}, g_{max} and g_{cal} are computed.

Please replace three consecutive paragraphs beginning at page 9, line 20 with the following paragraphs, in which the inserted text is underlined, and the deleted text is stricken through.

At step 607, ~~p~~<u>P</u>$_{i+1}$ is computed by using a linear equation *f* with $(g_{temp},0)$ and $(g_{mid},E(g_{mid}))$ and E_{i+1} is set to E(~~p~~<u>P</u>$_{i+1}$). The linear equation f is *f(g)=ag+b*.

After computing P_{i+1}, it is compared with any two of previous ~~p~~<u>P</u>$_i$ at step 608.

At step 609, if there are identical two ~~p~~<u>P</u>$_i$s, it is ended, and at step 610, if there are not identical two ~~p~~<u>P</u>$_i$s, g_{temp} is set to ~~p~~<u>P</u>$_{i+1}$ and g_{cal} is newly determined by $(g_{temp}+g_{fix})/2$, $E(g_{min})$ is set to E_{i+1} and g_{temp} is set to P_{i+1}. After setting new value for g_{cal}, steps 602 and 608 are ~~reputedly~~ <u>repeatedly</u> performed. For helping to understand steps for obtaining optimal threshold of FIG. 6, pseudo code is shown in below table.

Please replace Table 2 shown on pages 10 and 11 with the following tables, in which the inserted text is underlined, and the deleted text is stricken through.

Table 2

Set flag = True;

Set g_{min} = possible minimum occurring gray level;

Set g_{max} = possible maximum occurring gray level;

Set $G_{min} = g_{min}$;

Set $G_{max} = g_{max}$;

Set $\cancel{p}\underline{P}_i = \text{int}\,[\,(g_{max} + g_{min})\,/2]$;

Set $g_{cal} = \cancel{p}\underline{P}_i$;

Compute $E(g_{min})$;

Compute $E(g_{max})$;

Compute $E(g_{cal})$;

While (flage == True)

If $(E(g_{cal}) < E(g_{min}))$ then

set $g_{temp} = g_{min}$;

set $g_{fix} = G_{max}$;

Else

Set $g_{temp} = g_{max}$;

Set $g_{fix} = G_{min}$;

Set $g_{mid} = (g_{fix} + g_{temp})\,/2$;

Set $\cancel{p}\underline{P}_i = g_{mid}$;

Set $E_{mid} = (E(g_{temp}) + E(g_{fix}))\,/2$;

Generate linear equation f using $(g_{temp}, 0)$ and (g_{mid}, E_{mid}) ;

Set $\cancel{p}\underline{P}_{i+1} = f^{-1}(E(\cancel{p}\underline{P}_i))$;Set $E_{i+1} = E(\cancel{p}\underline{P}_{i+1})$;

If ($\cancel{p}\underline{P}_{i+1}$ = any two previous $\cancel{p}\underline{P}_i$) then

set flag = false;

Else

set $E(g_{min}) = E_{i+1}$;

set $g_{temp} = P_{i+1}$, $g_{cal} = (g_{temp} + g_{fix})\,/2$;

END IF

End While.